November 1990 86-018-1810

PHASE 2A AIR SAMPLING RESULTS
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
NAVAL AIR STATION ALAMEDA
ALAMEDA, CALIFORNIA

ENCLOSURE 13

Prepared for Western Division Naval Facilities Engineering Command

CanonieEnvironmental

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86-018-1810

November 27, 1990

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Western Division Naval Facilities
Engineering Command
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Phase 2A Air Sampling Results
Remedial Investigation/Feasibility Study
Naval Air Station Alameda
Alameda, California

Dear Ms. Dizon:

This report presents the results of the Phase 2A air sampling that was performed during the Remedial Investigation/Feasibility Study (RI/FS) at Naval Air Station (NAS) Alameda. Air sampling was conducted as part of the RI/FS Sampling Plan for NAS Alameda to establish background levels for potential airborne contaminants originating from chemicals used at various sites. Ambient air samples were collected by our Site Health and Safety Officer daily during July 17 through 19, 1990 at Phase 2A sites, including Building 360, Building 547, Yard D-13, Building 530, Building 410, and Area 97. The samples were analyzed for volatile organics (including benzene, toluene, ethyl benzene, and xylene), metals, and total nuisance dust, in accordance with Volume 1 of the Sampling Plan, dated February 1990, and the Air Sampling Plan, Volume 1B, dated December 1988. Sampling locations are shown on Figure 1, entitled Phase 2A Air Sampling Locations. Laboratory analyses were performed by Curtis and Tompkins, Ltd. (CTL) of Berkeley, California. Certified analytical reports are provided in Appendix A.

Before implementing field activities, CTL was contacted to discuss their analytical laboratory's role, with respect to the analytical procedures outlined in the Air Sampling Plan. Upon their review of this document, CTL indicated that the proposed sampling protocols and laboratory analyses methods for volatile organics, which were appropriate in 1988, were no longer considered the most accurate, reliable, and valid methods for analysis. Instead of using the proposed Tenax and polyurethane foam media for collection of air samples and EPA Method T01 for laboratory analysis, air samples were collected with Supelco Carbo-Trap 300 absorption media and were analyzed by EPA Method T02. This modified approach was approved by Western Division Naval Facilities Engineering Command and California Department of Health Services before the start of field work. Metals and total nuisance dust were analyzed using NIOSH Methods 7300 (modified) and 0500, respectively, as previously outlined in the Air Sampling Plan.

Air samples were obtained with Gillian air pumps set up at the site-specific locations shown on Figure 1. Samples drawn through these pumps were calibrated to a flow rate of approximately 20.0 cubic centimeters per minute. Sample pumps were run for eight hours for a total volume of approximately 0.0096 cubic meters. Air samples collected for analyses of metals and of total nuisance dust were also obtained using Gillian air pumps with the previously mentioned calibrated flow rate. These samples were collected for two hours for a total volume of approximately 0.0024 cubic meters. Sampling media for the metals and dust consisted of 37-millimeter cassettes with cellulose ester filters in which metals and dusts were collected.

Minor concentrations of some volatile organics and metals were detected during air sampling. A summary table of the analytical results for some volatile organics is presented in Table 1. Permissible exposure limits (PELs) and time-weighted average (TWAs) concentrations for each detected chemical are also presented. Chemical concentrations are presented in milligrams of analyte per cubic meter (mg/m^3) of air. These concentrations were calculated from the original laboratory concentrations by converting the original laboratory values of nanograms per tube (ng/tube) to milligrams per tube (mg/tube) divided by the total volume of air passed through the tube during the test, as shown by the following generalized equation:

$$\frac{(230 \text{ ng/tube})\ (1 \text{ mg}/10^6 \text{ ng})}{0.0096 \text{ m}^3/\text{tube}} = 0.025 \frac{\text{mg}}{\text{m}^3}$$

From the results of the laboratory analyses, we judge that the concentrations of detected chemicals are extremely low. These levels are significantly below established PEL and TWA concentrations and, therefore, should not be considered a significant health hazard or risk.

If you have any questions regarding these results, please call me at (415) 573-8012.

Very truly yours,

Timothy G. Bodkin, R.G.
Senior Project Scientist

TGB/gd

Enclosures

cc: J. Babcock, Canonie Environmental Services Corp.
R. Duffield, Canonie Environmental Services Corp.

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

TABLE 1

SUMMARY TABLE OF ANALYTICAL RESULTS: AIR
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Sampling Date	Analyte	OSHA PEL (mg/m3)	8 hr TWA (ppm)	Area 97 (mg/m3)	Building 360 (mg/m3)	Building 547 (mg/m3)	Building 410 (mg/m3)	Building 540 (mg/m3)	Yard D-15 (mg/m3)
Jul 17, 1990	Acetone	2400		0.024	ND	ND	0.025	0.038	ND
Jul 18, 1990	1,1,1-Trichloroethane	1900		0.229	ND	0.013	ND	ND	0.167
	1,1-Dichloroethane	400		0.008	ND	ND	ND	ND	ND
	1,1-Dichloroethene			0.125	ND	0.015	ND	ND	0.219
	2-Butanone	590		0.014	ND	ND	ND	ND	ND
	Acetone	2400		0.026	0.015	0.019	0.054	0.056	0.054
	Chloroform	240		0.014	ND	0.013	ND	ND	0.007
	Methylene Chloride		500	0.017	0.010	0.045	0.014	0.010	0.014
	Toluene		200	0.008	ND	ND	ND	ND	ND
	Trichloroethylene		100	0.022	ND	ND	ND	ND	ND
Jul 19, 1990	2-Butanone	590		ND	ND	ND	ND	0.011	ND
	Acetone	2400		0.021	ND	ND	0.047	0.065	ND
	Methylene Chloride		500	ND	ND	ND	ND	0.013	ND

Notes:

1. OSHA PEL denotes the Occupational Safety and Health Administration Permissible Exposure Limits, as found in 29 CFR 1910, Subpart Z, revised July 1, 1989.
2. 8-hr TWA refers to the time-weighted average concentration over a duration of 8 hours.
3. mg/m3 denotes milligrams of analyte per cubic meter of air.
4. ND denotes none detected to the detection limits presented in the certified analytical reports.

DRAWING NUMBER 86-018-E99

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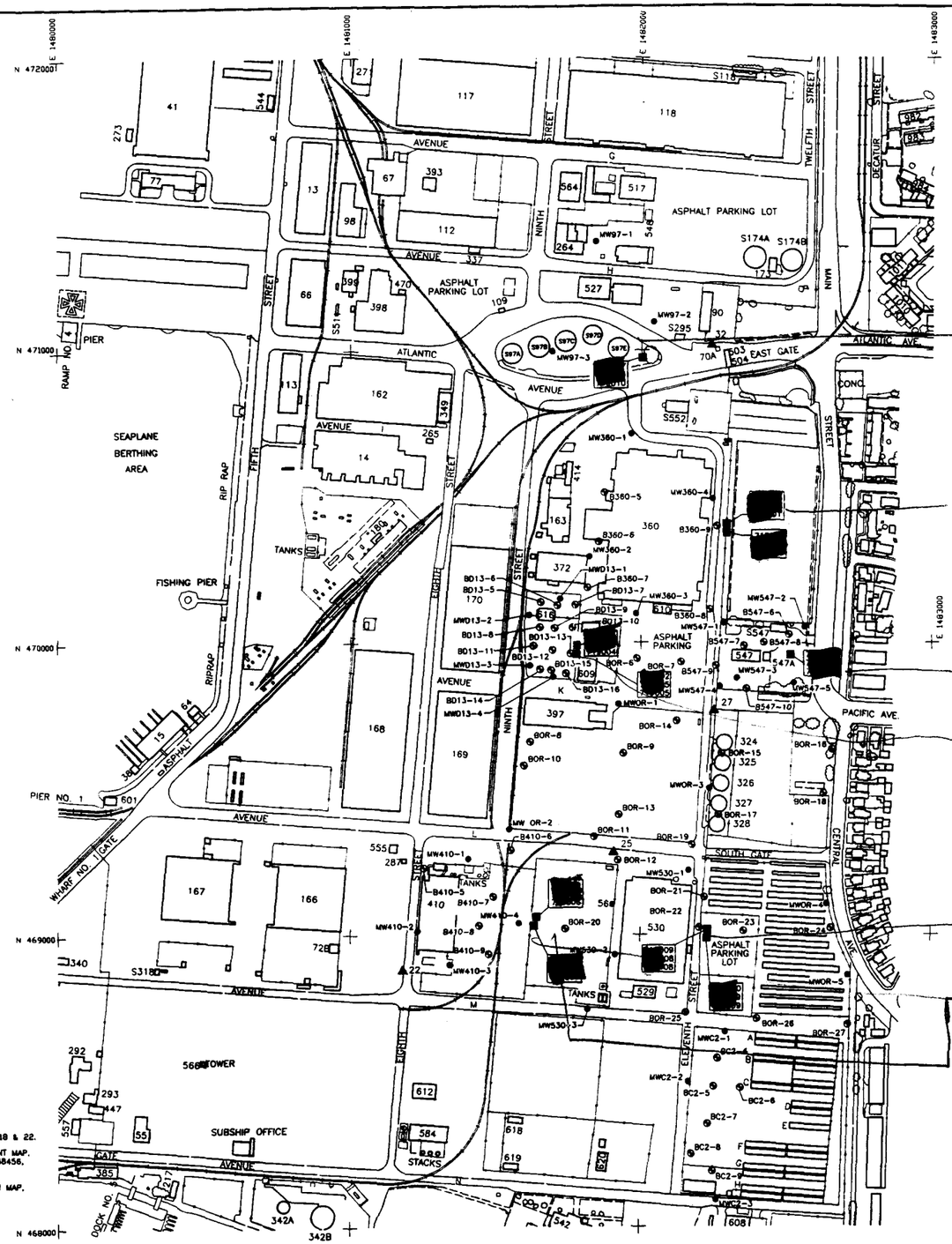

LEGEND:

- B360-5 — SOIL BORING LOCATION
- MW97-2 — MONITORING WELL LOCATION
- ▲22 — SURVEY MONUMENT
- 717003, 718001, 719001 — AIR SAMPLING LOCATION

SITE 3 AREA 97

SITE 4 - BLDG 360

SITE 7 (BLDG 547)

SITE 19 YARD D-13

SITE 10 (BLDG 530)

SITE 9 (BLDG 410)

7/18/90 = 13 Samples
VOC — 7
DUST — 2
METALS — 4
13

7/19/90 = 13 Samples
VOC = 5
Dust = 2
metals = 4
NO VOC = 2
13

AIR SAMPLING & TEST
7/17/90 : = 12 AIR SAMPLES
VOC — 5
DUST — 2
METALS — 4
NO VOC — 2
S/T = 13

NOTE: #717014 was tested for DUST & METALS

REFERENCES:

1. NAVAL AIR STATION ALAMEDA GENERAL DEVELOPMENT MAP, SHEETS 18 & 22.
2. NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA GENERAL DEVELOPMENT MAP, STATION MAP WITH SURVEY MONUMENTS ADDED, NAVFAC DRAWING NO. 638456, REVISION 8, DATED SEPTEMBER 15, 1986.
3. NAVAL AIR STATION, ALAMEDA, CALIFORNIA, STATION BENCHMARK LOCATION MAP, PWC DRAWING NO. 25144, DATED JANUARY 1985

SCALE
200 0 200 400 FEET

PHASE 2A
AIR SAMPLING LOCATIONS
NAVAL AIR STATION
ALAMEDA, CALIFORNIA
PREPARED FOR
WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA

Canonie Environmental

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	11-21-90	ISSUED FOR PHASE 2A AIR SAMPLING REPORT	KCH/VZC	TOB	[illegible]

DATE: 10-9-90	FIGURE 1	DRAWING NUMBER 86-018-E99	1
SCALE: AS SHOWN			

APPENDIX A

CERTIFIED ANALYTICAL RESULTS

N00236.000803
ALAMEDA POINT
SSIC NO. 5090.3

APPENDIX A – CERTIFIED ANALYTICAL RESULTS

THIS RECORD CONTAINS ANALYTICAL DATA AND IS NOT REQUIRED TO BE PHYSICALLY LOCATED WITH THE ADMINISTRATIVE RECORD DOCUMENT.

THIS DATA WILL NOT BE IMAGED.

TO VIEW THE DATA, CONTACT:

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